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Literature Review

Landscape Ecology

ENPL425

LANDSCAPE CHANGES

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ABSTRACT:

This literature review aims to show the changes in the landscape in general during previous time periods and to clarify the most important causes and factors for the change in the dynamics of the landscape. By mentioning several study cases and clarifying the procedures and methods used to obtain the information that led we have to know the amount of change in the study areas. In addition to discussing the impact of this change on the general condition of societies, and answering the reader's questions that revolve around the subject of the impact of the change of the natural landscape on the landscape patterns in the regions, and what is the relationship of population growth and the increase in the proportion of construction, migration, and the evolution of lifestyle and other indicators.

KEYWORDS:

Landscape ecology | Retrospective multi-temporal analysis | Landscape change | Rural landscape | Aerial photograph interpretation | Land use and land cover change | Drivers of change.

INTRODUCTION:

Landscape This term was recognized in the past (1769-1859) as a scientific concept and then turned into a field of study around the seventies [1]. Since the beginnings of observation on its transformation and change the impact of political, economic, and social changes.

The change of the natural landscape is a comprehensive concept of the various types and structures of the land and the change of use and vegetation cover, through which it appears that the natural landscape is dynamic and unstable affected by several factors and situations. What it touches and the results it reaches, the research

gaps and problems, the obstacles it faces, and landscape, which the conclusion lies in linking

the possible ways to move forward towards reaching land management solutions. It is the consistency of natural appearance.

Methods:

This reading combined many previous research and studies in different regions, which depended on analyzing and linking information, data, factors, and results for each of them in order to reach coherent and realistic results that can be analyzed, developed, and applied. By taking aerial photographs of different time periods and demarcating them with GIS and calculating the different areas of change of the natural landscape, also contributes to the results of changing the natural landscape.

Trends in land use and land cover:

The biggest changes may be in remote areas far from population centers and difficult to reach or that have become within crowded urban areas. Change is also observed in areas that are politically or economically unstable. The change of the landscape is related to two main processes which are intensification (increasing density) and displacement or de-densification. Focusing on increasing the density in land management may lead to the expansion of agricultural lands and the restriction of the elements of the natural landscape, for example, by focusing on increasing the density of livestock and the use of places and machines in agricultural operations, which contributes to the expansion of agricultural lands and the allocation of land use activities. To shrinkage or contraction, due to the migration of farmers to their lands and the displacement of urban lands to obtain easier job opportunities, which contributed to the increase in the elements of the natural landscape, due to people abandoning their lands due to the globalization of markets or remote lands on mountaintops, unreachable or damaged by urban construction or Areas with unproductive soils. It is due to many direct and indirect influences, all of which are due to the observation of changes in the natural

the topography and changing geographical patterns to the change of vegetation cover, for example, when attention was paid to land management and the intensity of agriculture in one place, migration and abandonment increased in the opposite place. The intensification of use and abandonment is one undivided scene [2].

Shortcomings and gaps in studies and research on changing the natural landscape

Research for context-specific regional political industries towards studying changes in the landscape and their impact and finding common

solutions at their level Uncover the complexities behind the determinants and drivers and follow the co-dependent analysis in linking factors and outcomes to each other and to the existing situation Avoid oversimplifying the complex natural facts of the earth and avoid minimizing and fragmenting problems and manifestations of complex structure and impact Incorporating innovative methods for assessing landscape change and promoting joint design and planning.

Case Studies:

Case (1):

In this case, a study analyzing data on landscape elements to determine trends of change and illustrate landscape dynamics, an area consisting of several villages is studied in rural Sweden.

The data were covered and summarized into five principal land cover groups; (1) arable . Procedures and methods were used to obtain data by using a statistical approach to analyze the dynamics of the land use scheme, and Principal Component Analysis (PCA) on landscape data derived from old cadastral maps and aerial photographs. The data were obtained from retrospective studies on the basis of old cadastral maps and available aerial photographs. PCA's data were obtained from the background information summary in five major land cover groups. In addition to the use of ancient cadastral maps, where a paper was developed to extract data from historical maps, the use of the land was traced, along with supplementary information from written supplements to ancient cadastral maps, and the interpretations were transferred manually. In addition to the traditional objective information, the Swedish cadastral map also contains an aerial calendar image as background information. The use of ancient cadastral maps, where a paper was developed to extract data from historical maps, the use of the land was traced, along with supplementary information from written supplements to ancient cadastral maps, and the interpretations were transferred manually. In addition to the traditional objective information, the Swedish cadastral map also contains an aerial calendar image as background information. The use of black and white and color infrared aerial photographs In order to determine the variable relationships between the ratios of the five vegetation cover categories that were mentioned, the composite loadings were calculated from the three layers and the degree of interpretation of each variable was presented to each factor, as the reason for the difference is inherent in environmental conditions and social history that led to a negative relationship between the proportion of rural landscapes and the proportion of land Semi-natural grassland and woodland. The analysis showed that the landscape has gradually moved towards a more uniform forest state, which is continued would eventually lead to a complete loss of agricultural activity in the area

Case (2):

Urban expansion and forest reserves: Drivers of change and persistence on the coast of Sao Paulo State (Brazil), this case study mainly discuss an important region for tourism and the energy sector. It analyzed the relationship between DFS and the processes of land change from 1985 to 2000 and from 2000 to 2015 with partial least squares path modeling.

The political and technological driving forces were the most important of drivers for explaining the observed processes, especially the most dominant ones are policies on land use and environment as political DF, distances to the main transportation infrastructure in technological DF, and the presence of steep slopes in Serra do Mar as natural DF, influenced forest persistence and were also determinants for urban settlement distribution. The State Parks and the zones for nature conservation as political DF were vital for the maintenance of forest cover and overall, the importance of political DF increased after 2000.

This study is the result of inequality in public policies, frequently influenced by economic interests, rather than lacking or inefficient planning, however, the main five groups of driving forces: socioeconomic, political, technological, natural, and cultural, so the systematic study of driving forces from these five groups can lead to a deeper understanding of the processes shaping landscape changes and provide a powerful basis for land-use planning.

RESULTS:

The change of natural manifestations is clearly linked to the management of land uses and vegetation cover and is affected by the nature of social and economic life mainly. The political and spatial factor plays an important role in influencing and dividing land use, changing the areas of vegetation cover and the natural landscape, the continuity of the natural landscape and its integration, and the natural factors affecting the change in the nature of regions and the density and integration of its elements, The development and increase in population densities also plays a role in change. If the need for housing projects increases the built urban areas, it is necessary to find appropriate solutions to maintain the integration of the natural landscape, such as encouraging farmers and granting them exemptions and grants, to increase and diversify agricultural areas and support the local economy, as well as adopting regulations And the regulations that guarantee the division of areas in a positive manner, and the inclusion of tourism as a factor to support the economic pillar, to encourage the integration and enhancement of the natural

REFERENCES:

CONCLUSION:

The research analyzes, studies and plans often arrive at the development of three future scenarios based on land assessment and pickling processes. All scenarios and visions pour into one topic that revolves around it in different ways and strategies, which is the generation of multifunctional uses of land that would integrate multiple social, environmental, cultural, and economic demands together. It aims at homogenizing the natural landscape and addressing the loss of its plurality and linking it to the different land-use sectors and searching for possible methods and solutions to move towards good land management that guarantees vitality, diversity, productivity, and continuity of the natural landscape. The drivers and factors affecting the change of the landscape together and the trend towards coherent analysis and joint solutions at the

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